

one former member of the Committee submitted objections to the NLGA and wood-treaters memberships. On October 29, 1997, after considering the Committee's recommendation and the comments of those who responded to the Federal Register notice, the Secretary of Commerce approved the recommendation of the Committee to allow one principal member and one alternate to represent the NLGA under Section 9.3.1 of PS 20-94 and one principal member and one alternate to represent wood treaters under Section 9.3.3.

**Authority:** 15 U.S.C. 272.

Dated: May 8, 1998.

**Robert E. Hebner,**

*Acting Deputy Director.*

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## DEPARTMENT OF COMMERCE

### National Institute of Standards and Technology

#### Notice of Government Owned Inventions Available for Licensing

**AGENCY:** National Institute of Standards and Technology, Commerce.

**SUMMARY:** The inventions listed below are owned in whole or in part by the U.S. Government, as represented by the Department of Commerce. The Department of Commerce's ownership interest in the inventions are available for licensing in accordance with 35 U.S.C. 207 and 37 CFR Part 404 to achieve expeditious commercialization of results of Federally funded research and development.

**FOR FURTHER INFORMATION CONTACT:** Technical and licensing information on these inventions may be obtained by writing to: National Institute of Standards and Technology, Industrial Partnerships Program, Building 820, Room 213, Gaithersburg, MD 20899; Fax 301-869-2751. Any request for information should include the NIST Docket No. and Title for the relevant invention as indicated below.

**SUPPLEMENTARY INFORMATION:** NIST may enter into a Cooperative Research and Development Agreement ("CRADA") with the licensee to perform further research on the inventions for purposes of commercialization. The inventions available for licensing are:

*NIST Docket Number:* 97-026.

*Title:* Method and Apparatus for Diffraction Measurement Using A Scanning X-Ray Source.

*Abstract:* This invention is jointly owned by the U.S. Government, as

represented by the Secretary of Commerce, and Digiray Corporation. The present invention relates to x-ray diffraction measurement by using moving x-ray source x-ray diffraction. The invention comprises a raster-scanned x-ray source, a specimen, a collimator, and a detector. The x-ray source is electronically scanned which allows a complete image of the x-ray diffraction characteristics of the specimen to be produced. The specimen is placed remote from the x-ray source and the detector. The collimator is located directly in front of the detector. The x-rays are diffracted by the specimen at certain angles, which cause them to travel through the collimator and to the detector. The detector may be placed in any radial location relative to the specimen in order to take the necessary measurements. The detector can detect the intensity and/or the wavelength of the diffracted x-ray. All information needed to solve the Bragg equation as well as the Laue equations is available. The x-ray source may be scanned electronically or mechanically. The present invention is used to perform texture analysis and phase identification.

*NIST Docket Number:* 96-042.

*Title:* High Strength Polymeric Networks Derived (Meth) Acrylate Resins With Organoflourine Content and Process For Preparing Same.

*Abstract:* Disclosed are fluorinated materials for use in dental uses and non-dental uses, e.g., adhesives or coatings. Multifunctional monomers and prepolymers with pendant (meth) acrylate groups were prepared from epoxide-ring-opening reactions. Resins based on the fluorinated monomers and prepolymers with diluent comonomers, were photocured as composites with particulate fillers. Fluorine contents of the prepolymers ranged from 15 to 65%. Composites with high transverse strength (up to 120 MPa), low water sorption (as low as 0.11 mass %) and extremely low polymerization shrinkage (as low as 3.4% by volume) were obtained. The fluorinated resins may be employed to produce hydrophobic dental composite materials with high strength and low polymerization shrinkage.

*NIST Docket Number:* 96-038US.

*Title:* Fractional Phase Measurement By Polarization-Dependent Spectroscopy.

*Abstract:* The invention provides an inexpensive, noninvasive optical method of quantitatively determining the volume fraction of anisotropic material in a mixture of anisotropic and isotropic material, and more particularly

for determining the volume fraction of noncubic crystalline material in a mixed-phase specimen having noncubic crystalline material intermixed with cubic crystalline material. Polarized light is impinged on the specimen and the reflectance or transmission difference between two orthogonal polarizations directions is measured. In cubic regions the reflectance or transmission is the same along both polarization directions so the contributions to the difference cancel, leaving a signal only from the noncubic regions. The optical difference can be measured as a function of wavelength and critical points in the band structure, including the band gap, can be profiled. From the band structure the film composition can be determined. This measurement is particularly suited to measuring III-V nitride semiconductor specimens having regions with zincblende symmetry mixed with regions of wurtzite symmetry.

*NIST Docket Number:* 96-025

*Title:* Broadband, Ultrahigh-Sensitivity Chemical Sensor Based on Intra-Cavity Total Reflection.

*Abstract:* This NIST invention permits broadband, ultra-sensitive measurement of optical absorption for any state of matter by the cavity ring-down technique using a small, monolithic, total internal reflection ring cavity. It significantly advances the sensitivity, accuracy, and adaptability of optical absorption spectroscopy for decisive qualitative and quantitative chemical analysis, with greatly increased trace analysis capability.

*NIST Docket Number:* 95-022.

*Title:* A Time Stamp Service for the National Information Network.

*Abstract:* This NIST invention consists of a method for applying a signed time-stamp to a document in digital format for the purpose of proving that the document existed on the date it was signed. Any digital-format document can be signed including simple text files, binary files, scanned images, etc. The document can be encrypted or encoded. The time-stamp is accurate to a few milliseconds, and the accuracy is directly traceable to UTC(NIST) in real-time. The signed document can be returned to the sender electronically and the document can also be forwarded automatically to any number of third parties provided only that the third parties are capable of receiving electronic mail.

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**Robert E. Hebner,**

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